

Notice of Allowability

Application No.

10/007,056

Applicant(s)

POLEY ET AL.

Examiner

Art Unit

Russ Guill

2123

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to an amendment filed August 9, 2006.
2. ☒ The allowed claim(s) is/are 1 - 14, 28 and 30 - 33.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Chris Fairborn on September 18, 2006.

The claims have been amended as follows:

Claim 9, line 2, the words "one or more" have been deleted.

Allowable Subject Matter

2. Claims 1 - 14, 28 and 30 - 33 are allowed over the prior art of record.
3. The following is an examiner's statement of reasons for allowance:
4. While Frantz (U.S. Patent 6,636,929) teaches a USB interface configured to communicate with one or more USB ports of the in-test host to communicate USB messages with the in-test host, a network interface configured to communicate with a peripheral using a network communications protocol, operating logic configured to perform actions comprising receiving USB command messages sent from the host to the interface device, and sending the received command

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messages from the interface device to the peripheral through the network interface using the network communications protocol, and receiving response messages sent from the peripheral to the interface device through the network interface using the network communications protocol, and sending the received response messages from the interface device through the USB interface to the host, and McAlear (U.S. Patent 6,389,029) teaches a network communications protocol which supports logical network ports, sending USB command messages from an interface device to a peripheral through a network interface using a network communication protocol, and receiving USB response messages sent from a peripheral to an interface device through a network interface using a network communication protocol, and sending received USB response messages from an interface device to a host, and maintaining a correspondence between USB peripheral devices and multiplexed network slots of an interface device, such that upon receiving a USB command message from a host using a USB protocol and corresponding to a particular USB peripheral device, the interface device sends the USB command message to the peripheral via one of the multiplexed network slots which corresponds to the particular USB device, and such that when receiving a USB response message from the peripheral using the network communications protocol and corresponding to the particular USB peripheral device, the interface device receives the USB response message via the multiplexed network slot which corresponds to the particular USB device, and

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IbmTechnicalDisclosure (IBM Technical Disclosure Bulletin, "Multiple Control Unit/Device Emulator for Testing Computer Programs", September 1971) teaches an in-test host and a peripheral emulator, and Hsu (U.S. Patent 6,393,588) teaches a peripheral emulator configured to emulate USB peripheral devices, none of these references taken either alone or in combination with the prior art of record teaches a testing interface device for testing an in-test host's support of USB peripherals, specifically including:

- a. Regarding claim 1, "USB interfaces configured to communicate with one or more USB ports of the in-test host", "the peripheral emulator configured to emulate USB peripheral devices", "to determine whether the in-test host supports proper operation of the emulated USB devices", "maintaining a correspondence between the emulated USB peripheral devices and the logical network ports of the testing interface device, such that upon receiving a USB command message from the in-test host using a USB protocol and corresponding to a particular emulated USB peripheral device, the testing interface device sends the USB command message to the peripheral emulator via one of the logical network ports which corresponds to the particular emulated USB device, and such that when receiving a USB response message from the peripheral emulator using the network communications protocol and corresponding to the particular emulated USB peripheral device, the testing interface device receives the

USB response message via the logical network port which corresponds to the particular emulated USB device”;

in combination with the remaining features and elements of the claimed invention. It is for these reasons that the Applicant’s invention defines over the prior art of record.

5. While Frantz (U.S. Patent 6,636,929) teaches sending the command data packets of the interface device to a peripheral over network communications media, receiving the response data packets from the peripheral over the network communications media at the interface device, wherein the response data packets are formatted in accordance with a network communications protocol, and McAlear (U.S. Patent 6,389,029) teaches sending USB command messages from a host to an interface device which supports logical network ports, receiving the USB command messages from the host at the interface device, packaging the USB command messages in command data packets formatted in accordance with a network communications protocol, sending the command data packets via multiplexed slots of the interface device to a peripheral over network communications media, unpackaging the USB command messages from the command data packets, generating USB response messages, packaging the USB response messages in response data packets, such that the response data packets can be sent to the interface device using the network communications protocol,

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receiving the response data packets from the peripheral over the network communications media at the testing interface device via the logical network ports, wherein the response data packets are formatted in accordance with a network communications protocol, unpackaging USB response messages from the response data packets at the interface device, sending the USB response messages which have been unpackaged from the interface device to the host, receiving the USB response messages at the host, and maintaining a correspondence between USB peripheral devices and multiplexed network slots of an interface device, such that upon receiving a USB command message from a host using a USB protocol and corresponding to a particular USB peripheral device, the interface device sends the USB command message to the peripheral via one of the multiplexed network slots which corresponds to the particular USB device, and such that when receiving a USB response message from the peripheral using the network communications protocol and corresponding to the particular USB peripheral device, the interface device receives the USB response message via the multiplexed network slot which corresponds to the particular USB device, and IbmTechnicalDisclosure (IBM Technical Disclosure Bulletin, "Multiple Control Unit/Device Emulator for Testing Computer Programs", September 1971) teaches an in-test host and a peripheral emulator, and Hsu (U.S. Patent 6,393,588) teaches emulating one or more USB peripheral devices that respond to the USB command messages, none of these references taken either

alone or in combination with the prior art of record teaches a method of testing an in-test host's support of USB peripherals, specifically including:

b. Regarding claim 28, "sending the command data packets via the logical network ports of the testing interface device to a peripheral emulator", "unpackaging the USB command messages from the command data packets at the peripheral emulator", "packaging the USB response messages in response data packets at the peripheral emulator, such that the response data packets can be sent from the peripheral emulator to the testing interface device using the network communications protocol", "determining whether the in-test host supports proper operation of the emulated USB devices based on the USB response messages", "maintaining a correspondence between the emulated USB peripheral devices and the logical network ports of the testing interface device, such that upon receiving a USB command message from the in-test host using a USB protocol and corresponding to a particular emulated USB peripheral device, the testing interface device sends the USB command message to the peripheral emulator via one of the logical network ports which corresponds to the particular emulated USB device, and such that when receiving a USB response message from the peripheral emulator using the network communications protocol and corresponding to the particular emulated USB peripheral device, the testing interface device receives the

USB response message via the logical network port which corresponds to the particular emulated USB device”;

in combination with the remaining features and elements of the claimed invention. It is for these reasons that the Applicant’s invention defines over the prior art of record.

6. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

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Conclusion

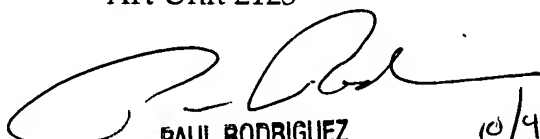
7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Russ Guill whose telephone number is 571-272-7955. The examiner can normally be reached on Monday - Friday 10:00 AM - 6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Rodriguez can be reached on 571-272-3753. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Any inquiry of a general nature or relating to the status of this application should be directed to the TC2100 Group Receptionist: 571-272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RG

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10/4/02